

ABSTRACT OF THE DISCLOSURE

A system and method for improving radio communication of frequency or phase modulated transmission and reception. Signal transmission is implemented by suppression of the upper and lower sidebands of a narrowband or very narrowband FM/PM signal from the transmission medium such that transmission is limited to the instantaneous frequency varied about the carrier frequency (center frequency). Suppression may be achieved by adding a bandpass filter between the modulator and the power amplifier of the narrowband FM transmitter. Upon receipt of the suppressed sideband signal, the received signal is converted to a first narrowband IF signal, and then the narrowband or very narrowband frequency deviation IF signal is expanded by frequency multiplication to generate a second wideband or very wideband IF signal. A discriminator may be used to convert the frequency-multiplied signal into a low frequency signal or audio signal for further processing. Through sideband suppression, bandwidth requirements are reduced without affecting sound quality and signal-to-noise ratio is improved.

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